



Figure S4. Magnitude of cortical theta phase progression is dependent on genetic background. Each panel in this figure is a scatter plot of the first- against the second-order descriptive statistics (i.e. circular mean and concentration) of the theta phase differences between a pair of cortical sites, specified by the inset in the top-right corner. Each symbol represents an animal, square for males and circles for females. Three groups are shown (in different colors): C57BL/6J mice (green), wildtype (blue) and *Sp4* hypomorphic (red) animals. Ovals mark 1- σ contours of covariances.